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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,580	10/16/2003	Yinghua Ye	088245-2348	7185

23524 7590 07/10/2008

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EXAMINER	
TRAN, DZUNG D	
ART UNIT	**PAPER NUMBER**
2613	
MAIL DATE	**DELIVERY MODE**
07/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/685,580	**Applicant(s)** YE ET AL.	
	Examiner Dzung D. Tran	**Art Unit** 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 17 January 2008.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-55 is/are pending in the application.
  4a) Of the above claim(s) 1-4,13-15,19-21,30-32,36-38,42-44 and 53-55 is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) 5-12,16-18,22-29,33-35,39-41 and 45-52 is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☒ All b)☐ Some * c)☐ None of:
    1.☒ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 5-12, 16-18, 22-29 and 45-52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the independent 2, 22 and 45, it claimed “optically detecting”, however, the specification does not provide any specific detail to teach a “optically detecting” and how it relates to the invention. Without such detail description, the disclosure does not enable a person of ordinary to made and use the claimed invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

> invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5-7, 16, 17, 22-24, 33, 34, 39, 40, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dyke et al. US Patent no. 6,351,582 in view of Foltzer US patent no. 6,567,579.

Regarding claim 5, Dyke discloses in Figure 7, a method of detecting and recovering a failure in a protected single-fiber passive optical network comprising a first interface 701 including a first transmitter Tx and a first receiver Rx, a second interface 702 including a second transmitter Tx and a second receiver Rx, an optical fiber 711 connecting said interfaces, a plurality of passive nodes 720, 730, 740, 750 between said interfaces, a plurality of optical network units 721, 731, 741, 751, connected to said plurality of passive nodes, the method comprising the steps of:

sending optical signals from said first interface 701 via said optical fiber 711 to said second interface 702 (Figure 7, col. 12, lines 21-22);

detecting at said second interface a fault arising from said first interface (col. 6, lines 1-4; col. 12, lines 23-27); and

in response to detection, switching on said second transmitter of said second interface (col. 6, lines 13-18; col. 12, lines 23-27).

Dyke does not specially disclose for detecting at said second interface a fault arising from said first interface based on signal degradation in power level.

Foltzer discloses in col. 7, lines 26-38, for monitoring the fault of the optical system base on signal degradation in power level (i.e., quality degradation is detect). At the time of the invention was made, it would have been obvious to an artisan to implement the well known method for monitoring the fault of the optical system base on signal degradation in power level taught by Foltzer in the optical system of Dyke. One of ordinary skill in the art would have been motivated to do that in order to determine the fault in the optical system. Thus it enhances the optical system reliability.

Regarding claim 6, Dyke discloses for switching on said second transmitter of said second interface occurs when the power level of said optical signals drops below a predetermined threshold value (col. 12, lines 37-43).

Regarding claim 7, Dyke discloses for switching off said second transmitter if the power level increases above said predetermined threshold value (col. 8, lines 63-65).

Regarding claim 16, Dyke discloses in Figure 7, a method of detecting and recovering a failure in a protected single-fiber passive optical network comprising a first interface 701 including a first transmitter Tx and a first receiver Rx, a second interface 702 including a second transmitter Tx and a second receiver Rx, an optical fiber 711 connecting said interfaces, a plurality of passive nodes 720, 730, 740, 750 between said interfaces, a plurality of optical network units 721, 731, 741, 751, connected to said plurality of passive nodes, the method comprising the steps of:

detecting in said first interface a fault arising from at least one optical network unit (col. 6, lines 1-4; col. 12, lines 23-27); and

in response to detection, switching on said second transmitter of said second interface (col. 6, lines 13-18; col. 12, lines 23-27).

Dyke does not specially disclose for detecting in said first interface that signals are not received from at least one optical network unit.

Foltzer discloses in col. 7, lines 26-38, for monitoring the fault of the optical system base on detecting in said first interface that signals are not received from at least one optical network unit (i.e., fiber breakage fault). At the time of the invention was made, it would have been obvious to an artisan to implement the well known method for monitoring the fault of the optical system base on detecting in said first interface that signals are not received from at least one optical network unit (i.e., fiber breakage fault) taught by Foltzer in the optical system of Dyke. One of ordinary skill in the art would have been motivated to do that in order to determine the fault in the optical system. Thus it enhances the optical system reliability.

Regarding claim 17, Dyke discloses for switching off said second transmitter of said second interface if said first interface detects that a number of optical network units from which signals are not received increases (col. 8, lines 63-65).

Regarding claim 22, Dyke discloses in Figure 7, a protected single-fiber passive optical network comprising: a first interface 701 including a first transmitter Tx and a first receiver Rx, a second interface 702 including a second transmitter Tx and a second receiver Rx, an optical fiber 711 connecting said interfaces, a plurality of passive nodes 720, 730, 740, 750 between said interfaces, a plurality of optical network units 721, 731, 741, 751, connected to said plurality of passive nodes;

a detector Rx at said second interface 702 for detecting a fault arising from said first interface via said optical fiber 711 (col. 6, lines 1-4; col. 12, lines 23-27); and in response to detecting, said second interface is configured to switch on said second transmitter (col. 6, lines 13-18; col. 12, lines 23-27).

Dyke does not specially disclose for detecting at said second interface a fault arising from said first interface based on signal degradation in power level.

Foltzer discloses in col. 7, lines 26-38, for monitoring the fault of the optical system base on signal degradation in power level (i.e., quality degradation is detect). At the time of the invention was made, it would have been obvious to an artisan to implement the well known method for monitoring the fault of the optical system base on signal degradation in power level taught by Foltzer in the optical system of Dyke. One of ordinary skill in the art would have been motivated to do that in order to determine the fault in the optical system. Thus it enhances the optical system reliability.

Regarding claim 23, Dyke discloses wherein said second interface is configured to switch on said second transmitter of said second interface when the optical power level of optical signals received with said second receiver drops below a predetermined threshold value (col. 12, lines 37-43).

Regarding claim 24, Dyke discloses wherein said second interface is configured to switch off said second transmitter if the power level increases above said predetermined threshold value (col. 8, lines 63-65).

Regarding claim 33, Dyke discloses in Figure 7, a protected single-fiber passive optical network comprising: a first interface 701 including a first transmitter Tx and a first receiver Rx, a second interface 702 including a second transmitter Tx and a second receiver Rx, an optical fiber 711 connecting said interfaces, a plurality of passive nodes 720, 730, 740, 750 between said interfaces, a plurality of optical network units 721, 731, 741, 751, connected to said plurality of passive nodes;

a detector Rx for detecting a fault arising from at least one optical network unit (col. 6, lines 1-4; col. 12, lines 23-27); and

a transmitter Tx for sending means for sending to said second interface a message to switch on said second transmitter of said second interface (col. 6, lines 13-18; col. 12, lines 23-27).

Dyke does not specially disclose for detecting in said first interface that signals are not received from at least one optical network unit.

Foltzer discloses in col. 7, lines 26-38, for monitoring the fault of the optical system base on detecting in said first interface that signals are not received from at least one optical network unit (i.e., fiber breakage fault). At the time of the invention was made, it would have been obvious to an artisan to implement the well known method for monitoring the fault of the optical system base on detecting in said first interface that signals are not received from at least one optical network unit (i.e., fiber breakage fault) taught by Foltzer in the optical system of Dyke. One of ordinary skill in the art would have been motivated to do that in order to determine the fault in the optical system. Thus it enhances the optical system reliability.

Regarding claim 34, Dyke discloses wherein said second interface is configured to switch off said second transmitter of said second interface if said detecting means detects that a number of optical network units from which signals are not received increases (col. 8, lines 63-65).

Regarding claim 39, Dyke discloses in Figure 5 an interface arrangement for a protected single-fiber passive optical network, the arrangement comprising:

a first interface 514 including a first transmitter Tx 1500 coupled to a fiber for transmitting optical signals on a first wavelength and a first receiver Rx 1300 coupled to said fiber for receiving optical signals on a second wavelength;

a second interface 515 including a second transmitter Tx 1300 coupled to said fiber for transmitting optical signals on the second wavelength and a second receiver Rx 1500 coupled to said fiber for receiving optical signals on the first wavelength;

a detector Rx for detecting a fault arising from at least one optical network unit (col. 6, lines 1-4; col. 12, lines 23-27); and

a transmitter Tx for sending to said second interface a message to switch on said second transmitter of said second interface (col. 6, lines 13-18; col. 12, lines 23-27). Dyke does not specially disclose for detecting in said first interface that signals are not received from at least one optical network unit.

Foltzer discloses in col. 7, lines 26-38, for monitoring the fault of the optical system base on detecting in said first interface that signals are not received from at least one optical network unit (i.e., fiber breakage fault). At the time of the invention was made, it would have been obvious to an artisan to implement the well known method for monitoring the fault of the optical system base on detecting in said first interface that signals are not received from at least one optical network unit (i.e., fiber breakage fault) taught by Foltzer in the optical system of Dyke. One of ordinary skill in the art would have been motivated to do that in order to determine the fault in the optical system. Thus it enhances the optical system reliability.

Regarding claim 40, Dyke discloses wherein: said second interface is configured to switch off said second transmitter of said second interface if said detecting means detects that a number of optical network units from which signals are not received increases (col. 8, lines 63-65).

Regarding claim 45, Dyke discloses in Figure 5 an interface arrangement for a protected single-fiber passive optical network, the interface arrangement comprising:

a first interface 514 including a first interface 514 including a first transmitter Tx 1500 coupled to a fiber for transmitting optical signals on a first wavelength and a first receiver Rx 1300 coupled to said fiber for receiving optical signals on a second wavelength;

a second interface 515 including a second transmitter Tx 1300 coupled to said fiber for transmitting optical signals on the second wavelength and a second receiver Rx 1500 coupled to said fiber for receiving optical signals on the first wavelength;

a detector coupled to said fiber for detecting a fault arising via said fiber (col. 6, lines 1-4; col. 12, lines 23-27); and

in response to detecting, said second interface is configured to switch on said second transmitter (col. 6, lines 13-18; col. 12, lines 23-27).

Dyke does not specially disclose for detecting at said second interface a fault arising from said first interface based on signal degradation in power level.

Foltzer discloses in col. 7, lines 26-38, for monitoring the fault of the optical system base on signal degradation in power level (i.e., quality degradation is detect). At the time of the invention was made, it would have been obvious to an artisan to implement the well known method for monitoring the fault of the optical system base on signal degradation in power level taught by Foltzer in the optical system of Dyke. One of ordinary skill in the art would have been motivated to do that in order to determine the fault in the optical system. Thus it enhances the optical system reliability.

Regarding claim 46, Dyke discloses wherein said second interface is configured to switch on said second transmitter when the power level of the received optical signals of said first wavelength drops below a predetermined threshold value (col. 12, lines 37-43).

Regarding claim 47, Dyke discloses wherein said second interface is configured to switch off said second transmitter if the power level increases above said predetermined threshold value (col. 8, lines 63-65).

5. Claims 8-11, 25-28 and 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dyke et al. US Patent no. 6,351,582 in view of Foltzer US patent no. 6,567,579 and further in view of Tokita et al. US publication no. 2002/0093714.

Regarding claims 8-11, 25-28 and 48-51, the combination of Dyke and Foltzer discloses all the limitations except for wherein said second interface is configured to keep said second transmitter switched on if the power level increases above said predetermined threshold value and wherein said second interface is configured to switch said second transmitter off and again on in order to verify that a cable is still broken and wherein said second interface is configured to switch off said second transmitter if detecting with said detector an abrupt change in the power level after switching on said second transmitter or switching on said second transmitter again if the power level decreases below said predetermined threshold value.

Tokita discloses an optical apparatus comprises a switch circuit for switching the optical transmitter On/Off based on the comparison between the source voltage and the predetermined voltage (abstract).

At the time of the invention was made, one of ordinary skill in the art would have been include the switching circuit taught by Tokita in the combination of Dyke and Foltzer. One of ordinary skill in the art would have been motivated to do that in order to allow the technician or user to monitor and maintenance the system. Thus, it improves the optical system reliability.

Allowable Subject Matter

6. Claims 12, 18,29, 35, 41 and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and correct the 35 U.S.C. 112 rejection.

Response to Arguments

7. Applicant's arguments filed on 01/17/2008 have been fully considered but they are not persuasive.

A) Rejection claims 5-7, 16, 17, 22-24, 33, 34, 39, 40 and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schairer U.S. Patent no. 6,301,035.

Applicant argues that Folzer does not teach, discloses or suggest **optically detecting** a degradation in power level signal as recited in claims 5, 22 and 45. However, the specification does not provide any specific detail to teach "optically detecting" and how it relates to the invention. Without such detail description, the disclosure does not enable a person of ordinary to made and use the claimed invention. Furthermore, the specification of the present invention teach to detect the degradation in power level by comparing the predetermined threshold value (paragraphs 0036-0040) (i.e., it needs to covert the optical to electrical signal to comparing the predetermined threshold value).

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran
05/12/2008

/Dzung D Tran/

Primary Examiner, Art Unit 2613